



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,407	09/16/2003	Jan-Erik Ekberg	4208-4114US1	9670
27123 7590 06/01/2007 MORGAN & FINNEGAN, L.L.P. 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101			EXAMINER HO, HUY C	
			ART UNIT 2617	PAPER NUMBER
			MAIL DATE 06/01/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/662,407	Applicant(s) EKBERG ET AL.	
	Examiner Huy C. Ho	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-53 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-44 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 19, 37 and 45 are rejected under 35 U.S.C. 102(e) as being anticipated by Arora (2004/0064568).

Consider claim 19, (Currently Amended) Arora teaches a method for performing device detection and service discovery in a mobile ad hoc communications network, comprising:

conducting an inquiry of the ad-hoc communications network to discover at least one nearby device, the inquiry including an indication that said at least one nearby device may include a middleware layer, said middleware layer being middleware software for providing application and service discovery (see the abstract, figure 2, pars [14]-[15], [66], [129]-[131], [133], [137], describing P2P platform provides mechanisms for peers to discover each other; cooperate to each other, connect and share applications, data and common services to each other, also, the P2P platform may guarantee interoperability between compliant software components executions);

when the inquiry includes the indication that said at least one nearby device may include the middleware layer (pars [14], [16], [65]-[66]):

creating a connection to said at least one nearby device (pars [128]-[129], [149], ;

confirming whether said at least one nearby device includes the middleware layer (pars [16]-[17]);

when the peer device includes the middleware layer: execute the middleware layer to perform application and service discovery (pars [15], [18], [65], [74], [79], [109], [351]).

Consider claim 37, (Currently Amended) Arora teaches a computer program product for performing device detection and service discovery in a mobile ad hoc communications network (see the abstract, pars [7], [14]-[15], [97]), comprising:

a computer readable medium storing:

program code for conducting an inquiry of the mobile ad hoc communications network to discover at least one nearby device, the inquiry including an indication that said at least one nearby device may include a middleware layer, said middleware layer being middleware software for providing application and service discovery (figure 2, pars [14]-[15], [66], [129]-[131], [133], [137]);

program code for creating a connection to said at least one nearby device when the inquiry includes the indication that said at least one nearby device may include the middleware layer (pars [128]-[129], [149]);

program code for confirming whether said at least one nearby device includes the middleware layer when the inquiry includes the indication that said at least one nearby device may include the middleware layer (pars [16]-[17]); and

program code for executing the middleware layer to perform application and service discovery when said at least one nearby device includes the middleware layer ((pars [15], [18], [65], [74], [79], [109], [351])).

Consider claim 45, (Currently Amended) Arora teaches a system for performing device detection and service discovery in a mobile ad hoc communications network, comprising:

means for conducting an inquiry of the mobile ad hoc communications network to discover at least one nearby device, the inquiry including an indication that said at least one nearby device may include a middleware layer, said middleware layer being middleware software for providing application and service discovery (figure 2, pars [14]-[15], [66], [129]-[131], [133], [137]);

means for creating a connection to said at least one nearby device when the inquiry includes the indication that said at least one nearby device may include the middleware layer (pars [128]-[129], [149]);

means for confirming that said at least one nearby device includes the middleware layer when the inquiry includes the indication that said at least one nearby device may include the middleware layer ((pars [16]-[17]); and

means for executing the middleware layer to perform application and service discovery when said at least one nearby device includes the middleware layer (pars [15], [18], [65], [74], [79], [109], [351])).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1-18, 20-36, 38-44 and 46-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arora et al. (2004/00664568) and further in view of Atkinson et al. (2002/0012329).

Consider claim 1, Arora teaches a system for performing device detection and service discovery in a mobile ad hoc communications network (see the abstract, pars [14]-[15]), comprising:

conducting an inquiry of the ad-hoc communications network to discover at least one nearby device, the inquiry including an indication that said at least one nearby device may include a middleware layer, said middleware layer being middleware software for providing application and service discovery (see the abstract, figure 2, pars [14]-[15], [66], [129]-[131], [133], [137], describing P2P platform provides mechanisms for peers to discover each other, cooperate to each other, connect and share

applications, data and common services to each other, also, the P2P platform may guarantee interoperability between compliant software components executions);

when the inquiry includes the indication that said at least one nearby device may include the middleware layer (pars [14], [16], [65]-[66]):

creating a connection to said at least one nearby device (pars [128]-[129], [149]) ;

confirming whether said at least one nearby device includes the middleware layer (pars [16]-[17]);

when the peer device includes the middleware layer: execute the middleware layer to perform application and service discovery (pars [15], [18], [65], [74], [79], [109], [351]).

Arora does not clearly show a memory device and a processor disposed in communication with the memory device, however, Arora discloses a peer may be recognized in form of a processor, and the peer device may have all the advertisements pre-stored memory (see par [128], [460] and [734]). In an analogous art, Atkinson teaches a processor disposed in communication with the memory device (see figure 2, number 103, pars [16], [22], [25], [50], [64]). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify Arora teachings by incorporating Atkinson teachings to have a memory and a processor.

Consider claim 53, (New) a wireless device in a mobile ad hoc communications network, comprising:

Arora teaches:

receive with the transceiver a response to the inquiry, including an indication that said at least one nearby device may include a middleware layer, said middleware layer being middleware software for providing application and service discovery (see the abstract, figure 2, pars [14]-[15], [66], [129]-[131], [133], [137]);

when the inquiry includes the indication that said at least one nearby device may include the

middleware layer: create with the transceiver a connection to said at least one nearby device (pars [128]-[129], [149]);

confirm whether said at least one nearby device includes the middleware layer (pars [16]-[17]);

when said at least one nearby device includes the middleware layer: execute the middleware layer to perform application and service discovery (pars [15], [18], [65], [74], [79], [109], [351]);

Arora does not clearly show a wireless short range transceiver, a memory device and a processor disposed in communication with the memory device, however, Arora discloses a peer may be recognized in form of a processor, and the peer device may have all the advertisements pre-stored memory (see par [128], [460] and [734]). In an analogous art, Atkinson teaches a Bluetooth RF transceiver, a processor disposed in communication with the memory device (see figure 2, number 103, pars [5], [12], [16], [22], [25], [50], [64]). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify Arora teachings by incorporating Atkinson teachings to have a memory and a processor.

transmit with the transceiver an inquiry of the mobile ad hoc communications network to discover at least one nearby device (see Atkinson, pars [5], [12], [13]),

Consider claims 2, 20, 38, 46, (Original) The system of claims 1, 19, 37, 45 Arora, as modified by Atkinson, teaches wherein the middleware layer includes a service discovery protocol and at least one computer program, each computer program comprising at least one sequence of operational instructions (pars [16], [19]).

Consider claims 3, 21, 39, 47 (Original) The system of claims 1, 19, 37, 45 Arora, as modified by Atkinson, further teaches wherein when said at least one nearby device includes the middleware layer, the processor is further configured to: execute the middleware layer to launch applications and services (pars [15], [18], [65], [74], [79], [109], [351]).

Consider claims 4, 22, 40, 48 (Original) The system of claims 1, 19, 37, 45 Arora, as modified

by Atkinson, further teaches wherein to conduct the inquiry, the processor is further configured to:

send an inquiry request message to a coverage area within the mobile ad hoc communications network (pars [15], [18], [65], [74], [79], [109], [351]); and

receive an inquiry response message from said at least one nearby device, the inquiry response message including the indication (pars [76], [96], [100], [106], [141], [214]).

Consider claims 5, 23 (Original) The system of claims 4, 22, Arora, as modified by Atkinson, teaches wherein the inquiry request message is a Bluetooth inquiry command, and the inquiry response message is a Bluetooth inquiry result command (pars [72], [81]).

Consider claims 6, 24 (Original) The system of claims 5, 23 Arora, as modified by Atkinson, teaches wherein setting at least one bit in the Bluetooth inquiry result command to at least one predetermined value is the indication (pars [11], [27], [29], [31], [50], [56], [60], [92]-[96], wherein describing bit code being used in inquiry process between devices).

Consider claim 7, 25 (Original) The system of claim 6, 24 Arora, as modified by Atkinson, teaches wherein said at least one bit includes at least one of the ad hoc networking aware bit, the location information bit, or the telephony capable bit (pars [11], [27], [29], [31], [50], [56], [60], [92]-[96]).

Consider claims 8, 26 (Original) The system of claims 5, 23 Arora, as modified by Atkinson, teaches wherein setting at least two bits in the Bluetooth inquiry result command to at least one predetermined value is the indication (pars [11], [27], [29], [31], [50], [56], [60], [92]-[96]).

Consider claims 9, 27(Original) The system of claims 8, 26 Arora, as modified by Atkinson, teaches wherein said at least two bits includes at least two of the ad hoc networking aware bit, the location information bit, or the telephony capable bit (pars [11], [27], [29], [31], [50], [56], [60], [92]-[96]).

Consider claims 10, 28 (Original) The system of claims 8, 26 Arora, as modified by Atkinson, teaches wherein said at least two bits includes the ad hoc networking aware bit, and at least one of the

location information bit, or the telephony capable bit (pars [11], [27], [29], [31], [50], [56], [60], [92]-[96]).

Consider claims 11, 29, 41, 49 (Original) The system of claims 1, 19, 37, 45 Arora, as modified by Atkinson, teaches wherein to create the connection, the processor is further configured to:

send a paging request message to a coverage area within the mobile ad hoc communications network directed to said at least one nearby device (pars [11], [13]); and

receive a paging accept message from said at least one nearby device (pars [11], [13]).

Consider claims 12, 30, 42, 50 (Original) The system of claims 1, 19, 37, 45, Arora, as modified by Atkinson, further teaches wherein to confirm that said at least one nearby device includes the middleware layer, the processor is further configured to:

send a recognition request message to said at least one nearby device (pars [16]-[17]); and

receive a recognition response message from said at least one nearby device (pars [16]-[17]).

Consider claims 13, 31, (Original) The system of claims 12, 30 Arora, as modified by Atkinson, further teaches wherein receipt of the recognition response message confirms that said at least one nearby device includes the middleware layer (pars [16]-[17]).

Consider claims 14, 32 (Original) The system of claims 12, 30 Arora, as modified by Atkinson, further teaches wherein the recognition response message includes a confirmation that said at least one nearby device includes the middleware layer (pars [16]-[17]).

Consider claims 15, 33 (Original) The system of claims 14, 32, Arora, as modified by Atkinson, teaches wherein setting at least one bit in the recognition response message to at least one predetermined value is the confirmation (pars [11], [27], [29], [31], [50], [56], [60], [92]-[96]).

Consider claims 16, 34 (Original) The system of claims 12, 30, 37, Arora, as modified by Atkinson, teaches wherein the recognition request message is a Bluetooth Service Discovery Protocol request and the recognition response message is a Bluetooth Service Discovery Protocol response (par

[55]).

Consider claims 17, 35, 43, 51 (Original) The system of claims 1, 19, 37, 45, Arora, as modified by Atkinson, further teaches wherein to execute the middleware layer to perform application and service discovery, the processor is further configured to:

receive a notification message from said at least one nearby device, the notification message including a local application directory stored in said at least one nearby device (pars [335], [610], [636]);

store an update to a combined application directory, the update based on a comparison of the local application directory and the combined application directory (pars [335], [610], [636]);

send an update message to said at least one nearby device, the update message including an update portion of the combined application directory for updating the local application directory stored in said at least one nearby device (pars [335], [610], [636]).

Consider claims 18, 36, 44, 52 (Original) The system of claims 17, 35, 43, 51 Arora, as modified by Atkinson, further teaches wherein the processor is further configured to:

launch a local application based on a reference in the combined application directory (pars [14], [80], [94], [106]); and

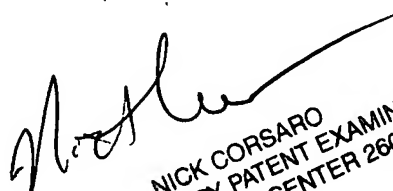
connect the local application to a counterpart application executing on said at least one nearby device (pars [14], [80], [94], [106]).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huy C. Ho whose telephone number is (571) 270-1108. The examiner can normally be reached on Monday - Friday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nick Corsaro can be reached on (571) 272-7876. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


NICK CORSARO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600